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Three Species of the Genus *Schizotetranychus*
(Acarina, Tetranychidae)

With 36 Text-figures

Shôzô EHARA

Biological Institute, Faculty of Education, Tottori University, Tottori 680, Japan

ABSTRACT Two new species and an unrecorded species belonging to the genus *Schizotetranychus* from Japan are described and illustrated: *S. leguminosus* n. sp. from *Maackia* in Hokkaido and from *Pueraria* in Honshu and Kyushu; *S. cercidiphylli* n. sp. from *Cercidiphyllum* in Hokkaido and Honshu; and *S. bambusae* Reck from a bamboo in Honshu.

Spider mites belonging to the genus *Schizotetranychus* Trägårdh are characterized in that the empodium consists of a pair of claw-like parts and two pairs of fine hairs. Sometimes, one or both of the pairs of fine hairs may be lacking.

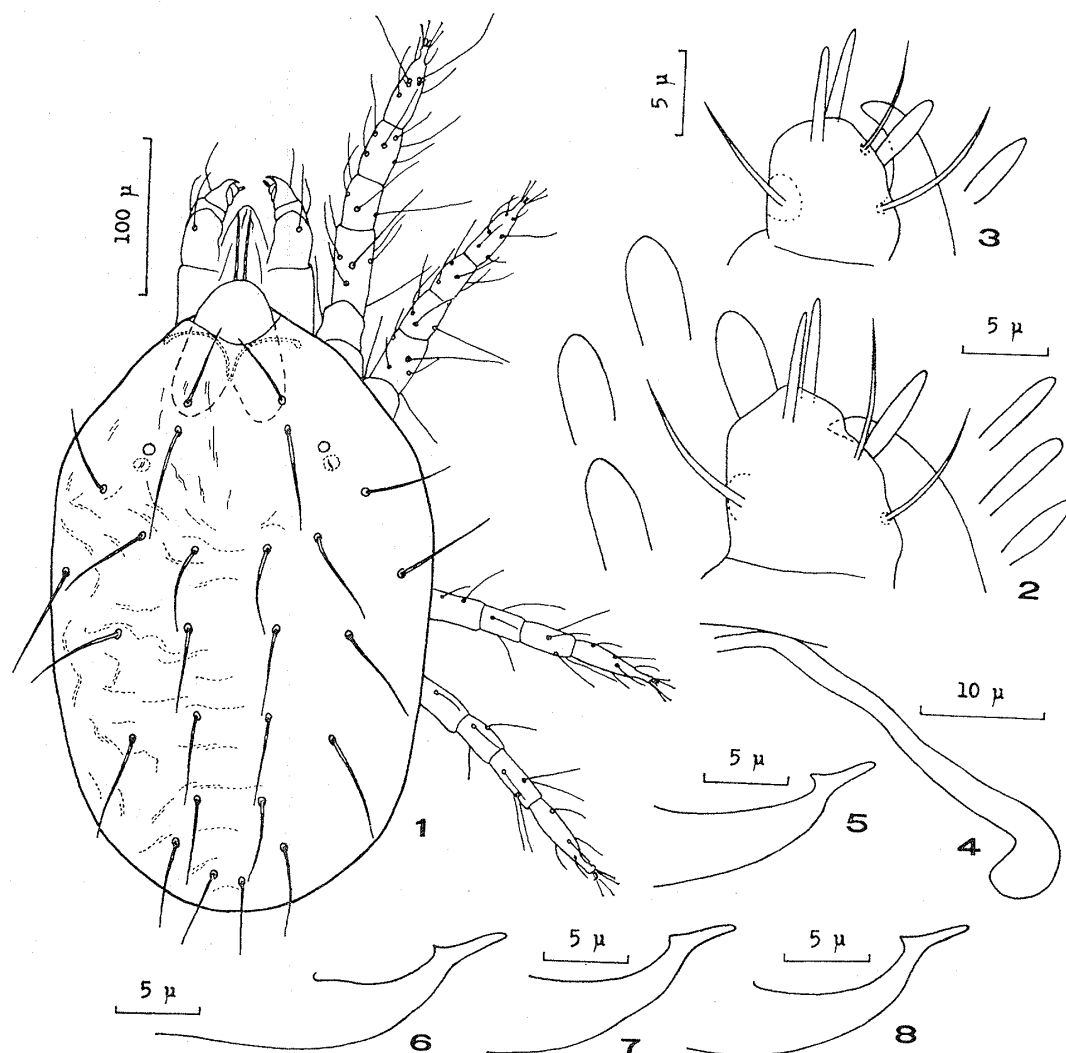
Prior to this study only three species of *Schizotetranychus* were known from Japan (Ehara, 1957). In this paper three species of this genus, other than these three species, are recognized to occur in this country, including two new species. The type-series of the new species are deposited in the collection of the Biological Institute, Faculty of Education, Tottori University.

Schizotetranychus leguminosus n. sp.

[Jap. name: Saya-hadani]

(Figs. 1–12)

Female. Body, including rostrum, 400 μ long, 210 μ wide, pale greenish yellow, with dark spots. Dorsal setae of idiosoma slender, pubescent; dorsocentral hysterosomal setae approximately as long as distances between their bases. Distal part of peritreme more or less tobacco-pipe-shaped. Genital flap with transverse striae; area immediately anterior to genital flap with transverse striae. Palpus with terminal sensillum about twice as long as wide; dorsal sensillum slender, subequal in length to terminal sensillum. Empodium with two fine dorsal hairs on each of claw-like parts. Tarsus I with four tactile setae proximal to proximal set of duplex setae, with one sensory seta near proximal duplex set; tibia I with nine tactile and

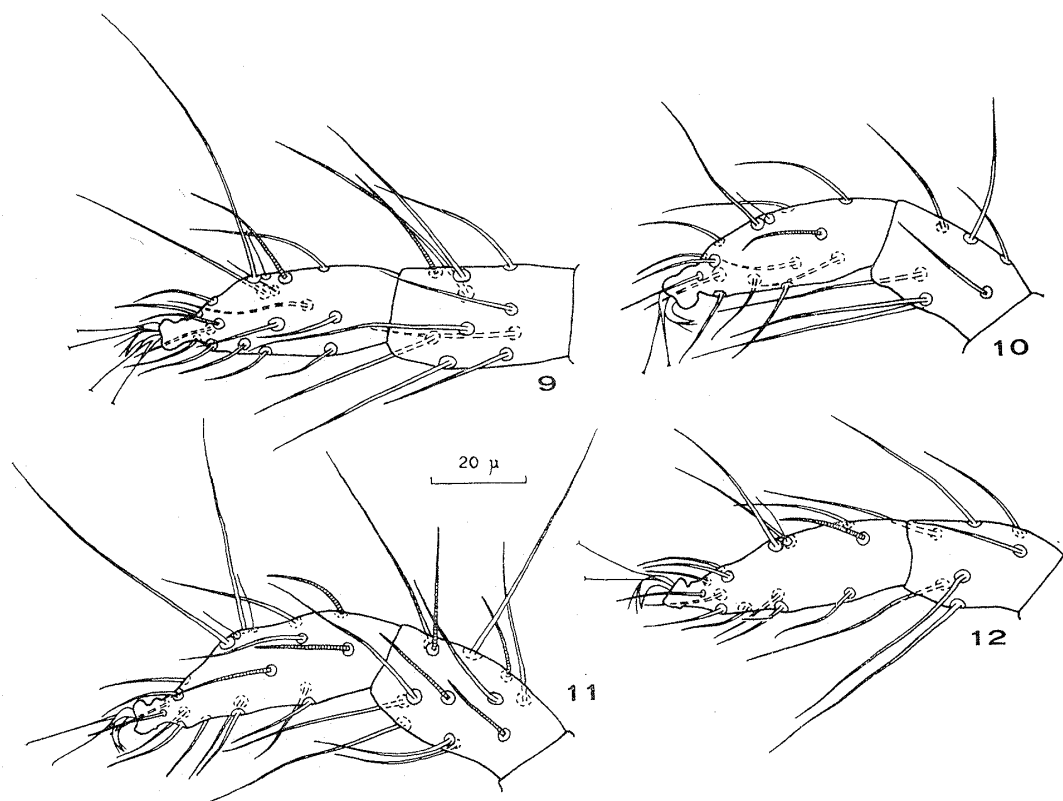


Figs. 1-8. *Schizotetranychus leguminosus* n. sp.—1. Dorsum of female.—2. Distal segment of palpus of female, showing variation of terminal and dorsal sensilla.—3. Distal segment of palpus of male, showing variation of dorsal sensillum.—4. Peritreme of female.—5-8. Aedeagi.

one sensory setae; femur I with nine tactile setae. Tarsus II with two (rarely one or three) tactile and one sensory setae proximad of duplex setae, with one tactile seta near duplex setae, and with two (rarely one) tactile setae, ventrad of duplex setae; tibia II with seven tactile setae. Tarsi III and IV each with nine tactile and one sensory setae; tibia III with six tactile setae; tibia IV with seven tactile setae; femur IV with three tactile setae.

Male. Body, including rostrum, 300 μ long, 140 μ wide. Aedeagus bent dorsad; terminal knob approximately one half as long as dorsal margin of shaft; anterior projection of knob acute, the posterior projection long and slender, tapering; axis of knob forming a weak angle with axis of shaft. Palpus with terminal

sensillum absent; dorsal sensillum well developed. Empodium I with a fine dorsal and a fine ventral hair on each claw-like part. Empodia II–IV with two fine dorsal hairs on each claw-like part. Tarsus I with four tactile and two sensory setae proximal to proximal set of duplex setae, with one sensory seta near proximal duplex set; tibia I with nine tactile and four sensory setae; femur I with nine tactile setae. Tarsus II with two (rarely one or three) tactile and one sensory setae, with one tactile



Figs. 9–12. *Schizotetranychus leguminosus* n. sp.—9. Tarsus and tibia I of female.—10. Tarsus and tibia II of female.—11. Tarsus and tibia I of male.—12. Tarsus and tibia II of male.

seta near duplex setae, and with two (rarely one) tactile setae ventrad of duplex setae; tibia II with seven tactile setae. Tarsi III and IV each with nine tactile and one sensory setae; tibia III with six tactile setae; tibia IV with seven (or six) tactile setae; femur IV with three tactile setae.

Type-series. Holotype: ♂, Ishikari, Hokkaido, 30–VIII–1967 (S. Ehara leg.), on *Maackia amurensis* Rupr. et Maxim. var. *buergeri* (Maxim.) C. K. Schn. Paratypes: 9 ♂♂ & 37 ♀♀, data same as for holotype; 2 ♂♂ & 8 ♀♀, Toyohira, Sapporo, Hokkaido, 7–VIII–1958 (S. Ehara leg.), on *Maackia amurensis* Rupr. et Maxim. var. *buergeri* (Maxim.) C. K. Schn.; 12 ♂♂ & 11 ♀♀, Ochiai, Kuroishi, Aomori Pref., Honshu, 14–IX–1971 (M. Yamada leg.), on *Pueraria lobata* (Willd.)

Ohwi; 6 ♂♂ & 20 ♀♀, Iwaya-yama, Nagasaki City, Kyushu, 4-X-1968 (S. Ehara leg.), on *Pueraria lobata* (Willd.) Ohwi.

Remarks. *Schizotetranychus leguminosus* n. sp. resembles *S. ugarovi* Wainstein, 1960, and *S. lechrius* Rimando, 1962, in the shape of the aedeagus, and in lacking the terminal sensillum on the male palpus. It differs, however, from these species in having seven instead of six tactile setae on tibia II of both sexes.

***Schizotetranychus cercidiphylli* n. sp.**

[Jap. name: Katsura-hadani]

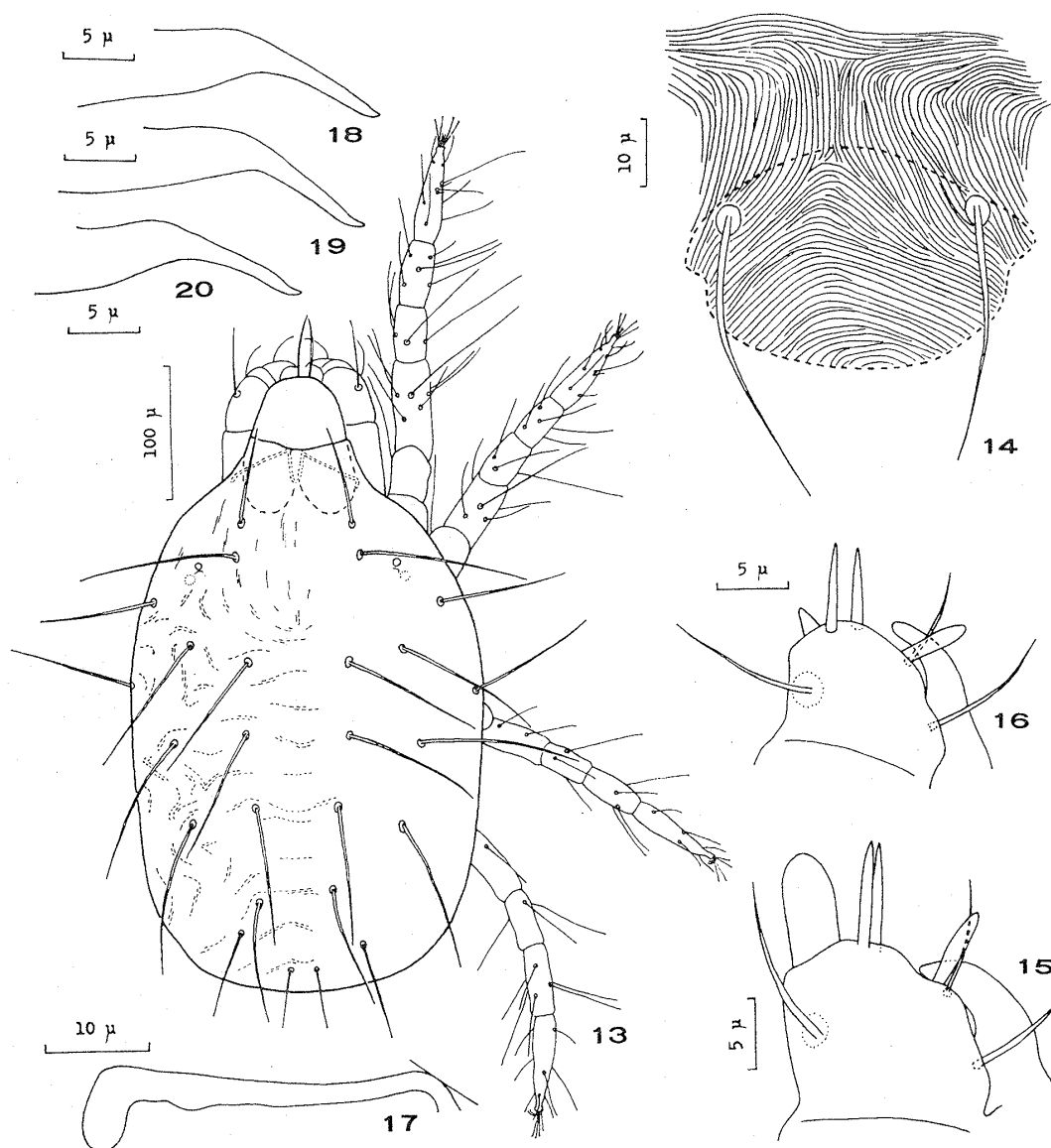
(Figs. 13-24)

Female. Body, including rostrum, 450 μ long, 250 μ wide, pale greenish yellow, with dark spots. Dorsal setae of idiosoma slender, pubescent, longer than intervals between bases; outer sacral setae much longer than clunal setae. Distal part of peritreme L-shaped. Genital flap with oblique striae on anterior part, with transverse striae on posterior part; area immediately anterior to flap with longitudinal striae. Palpus with terminal sensillum about twice as long as wide; dorsal sensillum slender, slightly shorter than terminal sensillum. Empodium with two fine dorsal hairs on each claw-like part. Tarsus I with five tactile setae proximal to proximal set of duplex setae, with one sensory seta near proximal duplex set; tibia I with nine tactile and one sensory setae; femur I with ten tactile setae. Tarsus II with three tactile and one sensory setae proximad of duplex setae, with one tactile seta near duplex setae; tibia II with eight tactile setae. Tarsi III and IV each with ten tactile and one sensory setae; tibia III with six tactile setae; tibia IV with seven tactile setae; femur IV with three tactile setae.

Male. Body, including rostrum, 310 μ long, 140 μ wide. Aedeagus gently curved caudoventrally to form a slender distal part which is nearly straight and gradually narrowing; the termination very slightly deflexed dorsad. Palpus with terminal sensillum conical; dorsal sensillum much longer than terminal sensillum. Empodium I with one (dorsal or ventral) or two (a dorsal and a ventral) very fine hairs on each claw-like part. Empodia II-IV with two fine dorsal hairs on each claw-like part. Tarsus I with four tactile and two sensory setae proximal to proximal set of duplex setae, with one sensory seta near proximal duplex set; tibia I with nine tactile and four sensory setae; femur I with ten tactile setae. Tarsus II with three tactile and one sensory setae proximal to duplex setae, with one tactile seta near duplex setae; tibia II with eight tactile setae. Tarsi III and IV each with ten tactile and one sensory setae; tibia III with six tactile setae; tibia IV with seven tactile setae; femur IV with three tactile setae.

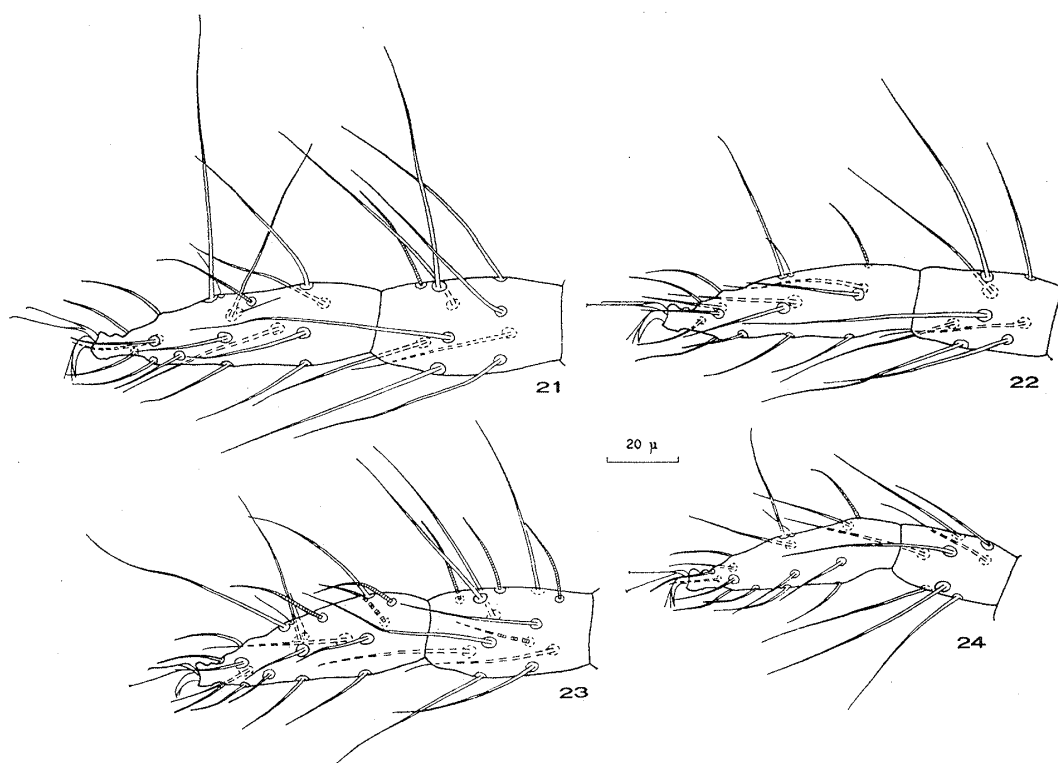
Type-series. Holotype: ♂, Sapporo, Hokkaido, 8-IX-1967 (S. Ehara leg.), on *Cercidiphyllum japonicum* Sieb. et Zucc. Paratypes: 7 ♂♂ & 6 ♀♀, data same as for holotype; 3 ♂♂ & 1 ♀, 7-IX-1967, other data same as for holotype; 7 ♂♂ & 12 ♀♀, 20-VIII-1970, other data same as for holotype; 2 ♂♂ & 5 ♀♀, Kuroishi,

Aomori Pref., 14-VIII-1966 (M. Yamada leg.), on *Cercidiphyllum japonicum* Sieb. et Zucc.; 2 ♂♂, 14-IX-1971, other data same as for the above.



Figs. 13-20. *Schizotetranychus cercidiphylli* n. sp.—13. Dorsum of female.—14. Genital and pregenital area of female.—15. Distal segment of palpus of female.—16. Distal segment of palpus of male.—17. Peritreme of female.—18-20. Aedeagi.

Remarks. The aedeagus of *Schizotetranychus cercidiphylli* n. sp. is somewhat similar to that of *S. sayedi* Attiah, 1967. But, this new species is distinguished from *S. sayedi* by having eight tactile setae on tibia II, and by having the terminal sensillum on the male palpus.



Figs. 21–24. *Schizotetranychus cercidiphylli* n. sp.—21. Tarsus and tibia I of female.—22. Tarsus and tibia II of female.—23. Tarsus and tibia I of male.—24. Tarsus and tibia II of male.

Schizotetranychus bambusae Reck

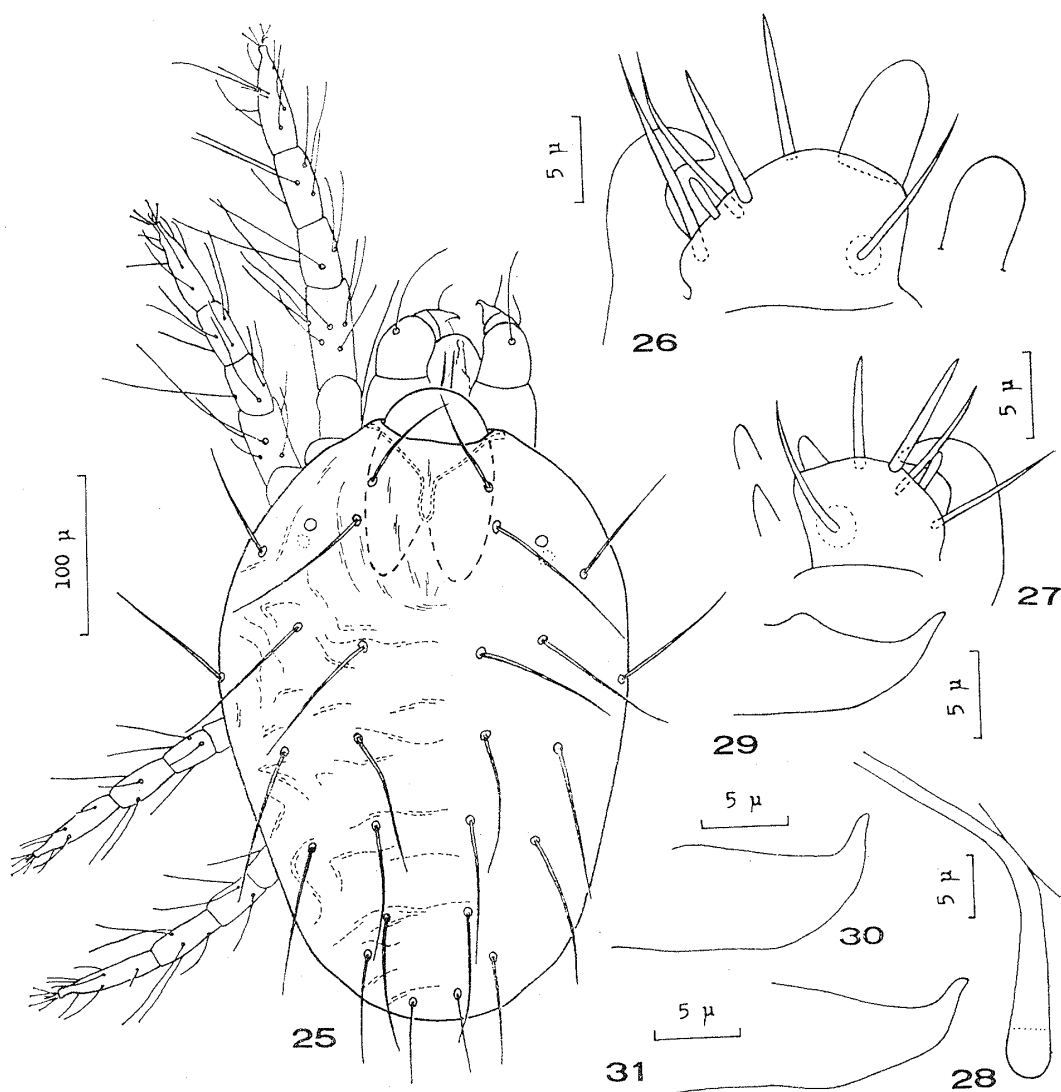
[Jap. name: Taketori-hadani]

(Figs. 25–36)

Schizotetranychus bambusae Reck, 1941, p. 449, figs. 1–5.—Bagdasarian, 1957, p. 136, fig. 64.

Schizotetranychus (*Schizotetranychus*) *bambusae*: Reck, 1948 a, p. 375, figs. 11, 23, 39.—Reck, 1948 b, p. 451.

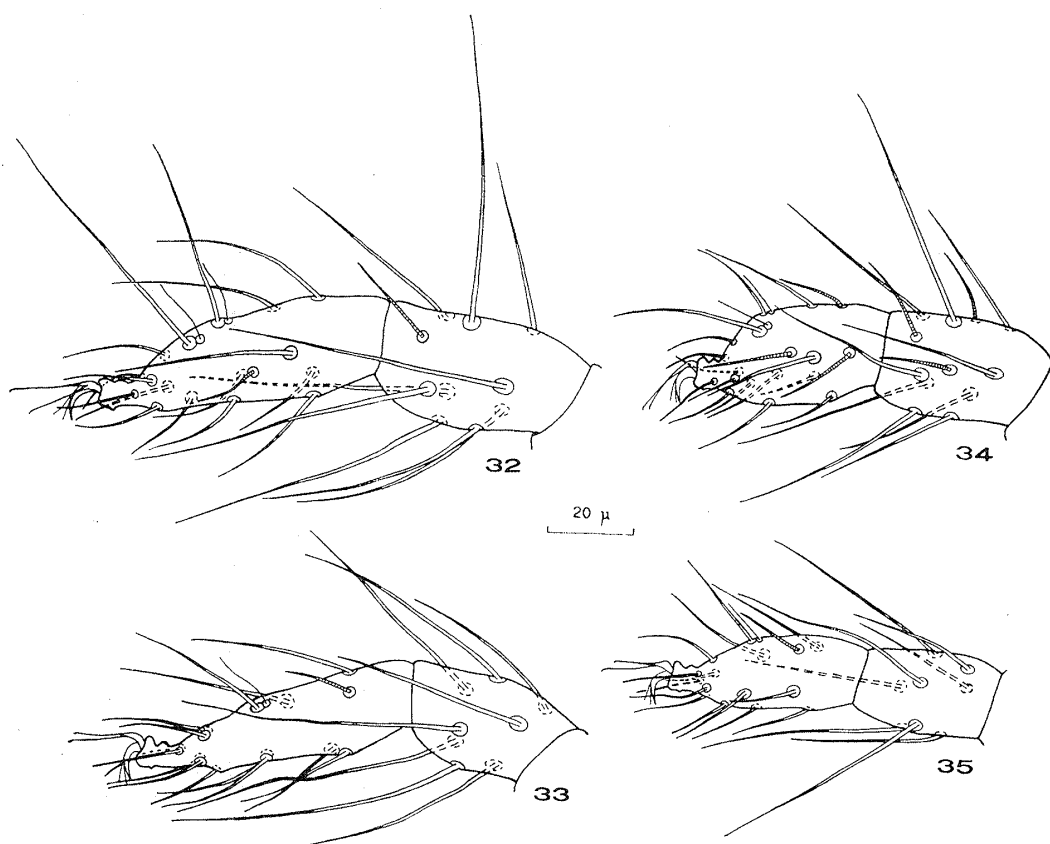
Female. Body, including rostrum, 350 μ long, 200 μ wide, pale yellowish, with dark lateral spots. Dorsal setae of idiosoma slender, pubescent, longer than intervals between bases; outer sacral setae noticeably longer than clunal setae. Peritreme straight distally, terminating in a simple end. Genital flap with transverse striae; area anterior to flap with longitudinal striae. Palpus with terminal sensillum less than twice as long as wide; dorsal sensillum very small. Empodium with two fine dorsal hairs on each of claw-like parts. Tarsus I with five tactile setae proximad of proximal set of duplex setae, with one sensory seta near the level of proximal duplex set; tibia I with nine tactile and one sensory setae; femur I with ten tactile setae. Tarsus II with three tactile and one sensory setae proximal to duplex setae, with one tactile seta near duplex setae; tibia II with eight tactile setae. Tarsi III and IV each with ten tactile and one sensory setae; tibia III with six tactile setae;



Figs. 25–31. *Schizotetranychus bambusae* Reck.—25. Dorsum of female.—26. Distal segment of palpus of female, showing variation of terminal sensillum.—27. Distal segment of palpus of male, showing variation of terminal sensillum.—28. Peritreme of female.—29–31. Aedeagi.

tibia IV with seven tactile setae; femur IV with two tactile setae.

Male. Body, including rostrum, 290 μ long, 130 μ wide. Aedeagus bent dorsad to form a small, gradually narrowing distal part. Palpus with terminal sensillum subconical; dorsal sensillum slender. Empodium with two fine dorsal hairs on each claw-like part. Tarsus I with four tactile and two sensory setae proximal to proximal set of duplex setae, with one sensory seta near the level of proximal duplex set; tibia I with nine tactile and three sensory setae; femur I with ten tactile setae. Tarsus II with three tactile and one sensory setae proximal to duplex setae, with one tactile seta near duplex setae; tibia II with eight tactile setae. Tarsi III



Figs. 32–35. *Schizotetranychus bambusae* Reck.——32. Tarsus and tibia I of female.——33. Tarsus and tibia II of female.——34. Tarsus and tibia I of male.——35. Tarsus and tibia II of male.

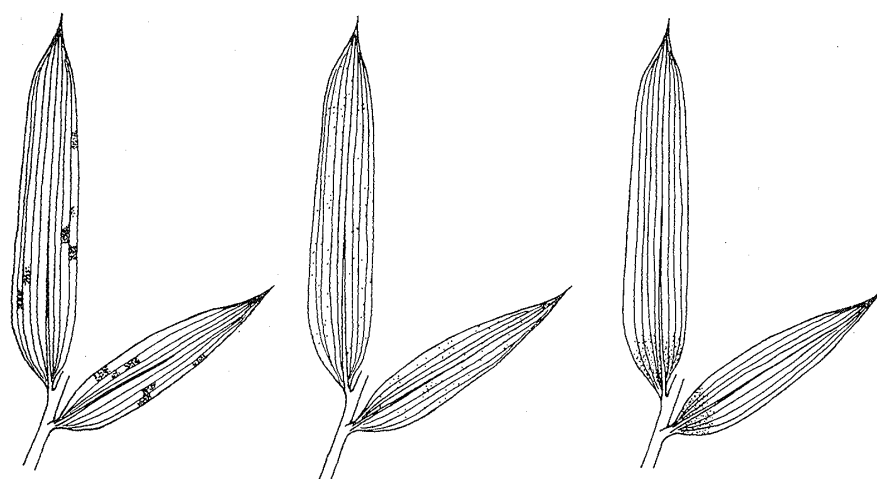


Fig. 36. Schematic drawing of bamboo leaves showing feeding scars of *Schizotetranychus* mites. Left, *S. celarius* (Banks); center, *S. recki* Ehara; right, *S. bambusae* Reck.

and IV each with ten tactile and one sensory setae; tibia III with six tactile setae; tibia IV with seven tactile setae; femur IV with two tactile setae.

Specimens examined. One ♂ & 6 ♀♀, Hirosaki, Aomori Pref., 23–VII–1967 (M. Yamada leg.), on a bamboo; 9 ♂♂ & 11 ♀♀, 19–VIII–1969, other data same as for holotype; 3 ♂♂ & 2 ♀♀, 24–VIII–1972 (S. Ehara, M. Yamada and S. Shirasaki leg.), other data same as for holotype.

Remarks. *Schizotetranychus bambusae* was previously known only from Transcaucasia on bamboo. Three species of *Schizotetranychus*, *S. celarius* (Banks), *S. recki* Ehara and *S. bambusae*, are now known to attack the bamboos in Japan. The feeding scars on the bamboo leaves differ markedly between these species (Fig. 36).

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